

REMARKS

The foregoing amendment is submitted to correct the dependency of claim 7 and to correct an obvious typographical error appearing in claim 23. No new matter has been added to the claims and entry of the amendment is therefore deemed proper and is respectfully requested.

The present claims are directed to a slurry and a product containing the same in which the slurry comprises from about 50% by weight to about 80% by weight of substantially spherical alkali metal bicarbonate particles dispersed in a liquid media. The claims require that the bicarbonate particles have a median particle size of from about 0.2 to about 50 μm and a surface area of from about 120 to about 140 cm^3/g . The slurry is required to have a loose bulk density of between about 1.4 and 1.6 grams/mL and a Zeta potential of about 2 to about 11 mV. The slurry is stable and is prepared in the absence of a suspending aid.

All of the claims pending in the application (claims 3-16 and 23-25) stand rejected as obvious over the combination of Vanzo (U.S. Patent No. 5,075,432), Coulter (U.S. Patent No. 3,743,613) and Masters (U.S. Patent No. 5,855,871).

Vanzo is stated to disclose a slurry of cyclodextrin which also contains sodium bicarbonate. The Office Action acknowledges that the Vanzo reference does not teach any of the characteristics of the bicarbonate particles or the slurry as required in the pending claims. Coulter is stated to disclose the use of sodium bicarbonate as

a buffering agent which is alleged to slow down the rate of degradation of the slurry material.

Masters is stated to disclose a dentifrice composition in the form of a slurry containing sodium bicarbonate in which surface active agents are incorporated into the composition to aid in the thorough dispersion of the dentifrice throughout the oral cavity.

The Office Action concludes that one of ordinary skill in the art would have been led to the claimed slurry and products containing the same based on the cited references. The rejection is hereby traversed and reconsideration is respectfully requested.

Vanzo discloses polymers of cyclodextrin and methods of forming the same. In forming the polymers of cyclodextrin, the object is to form an emulsion of droplets of polar solvent having a cyclodextrin therein surrounded at least in part by an emulsifying agent in a non-polar solvent and then adding a cross-linking agent which reacts with the cyclodextrin to form a spherical bead of cyclodextrin. In order to form the desired product, it is preferred to mix the cyclodextrin with a polar solvent (column 2, lines 13-29). Suitable polar solvents include water and aqueous alkali metal hydroxide solutions (column 2, lines 56-58). If water is used as a polar solvent, a base must be added to the droplet. Suitable bases include sodium bicarbonate (column 2, lines 65-68). The amount of base will vary depending on the amount of cyclodextrin present with sodium hydroxide being exemplified in an

amount of 12% to 20% by weight in the solution (column 3, lines 21-25). Sodium hydroxide is the only base mentioned in the examples.

Applicants agree that the Vanzo reference does not teach the claimed features of the bicarbonate particles or the slurry as set forth in depending claims. In addition, there is no teaching or suggestion of the use of 50 to about 80% by weight of bicarbonate particles in the slurry. Indeed, sodium bicarbonate appears to be in the form of a solution as described from column 2, lines 65 to column 3, line 24. Thus, the reference does not teach a slurry in which sodium bicarbonate particles are dispersed within a liquid media. The sodium bicarbonate particles are dissolved because sodium bicarbonate acts as a base in the reference system and would appear to be present in an amount of only 12% to 20% by weight of the solution (column 3, lines 21-25). It is therefore submitted that Vanzo is relevant to the claimed invention only by its disclosure of sodium bicarbonate. None of the material features of claim 3 are taught or suggested in this reference.

Coulter discloses a composition suitable for sealing permeable formations which includes a hydrophobic galactomannan gum, a readily water-soluble organic polymeric suspending agent and a pH control agent. The pH control or buffering agent is described beginning at column 6, line 23 and includes sodium bicarbonate. However, the buffering agent is in the form of a buffered solution. Thus, the sodium bicarbonate is not in the form of particles which are dispersed in a liquid media. In addition, the reference composition requires the presence of a suspending agent. Claim 3 of the present invention provides a slurry which is stable in the absence of a

suspending agent. In addition, the amount of the pH control agent may be varied between about .6% and about 40% by weight of the treated gum and therefore does not provide an amount of sodium bicarbonate within the claims of the present invention.

Masters discloses a two component dentifrice composition which includes as a first component an alkali metal bicarbonate and as a second component an acid-containing dentifrice component. The first component containing the alkali metal bicarbonate salt contains no more than 15% by weight of bicarbonate (column 3, lines 5-8). The small amount of sodium bicarbonate is supported in Table 1 in column 7 read in conjunction with Table 2, wherein the amount of sodium bicarbonate in the first component and the amount of bicarbonate in the total composition (10% by weight of the first component) is far below the high levels of bicarbonate particles required in the present claims.

In addition, the size of the sodium bicarbonate particles may vary but are within the range of 0.4 mm to 0.01 mm which in no way suggests the very small particle size of bicarbonate particles employed in the present invention. Furthermore, there is no teaching or suggestion in the reference of the surface area, bulk density and zeta potential requirements that are set forth in the present claims.

The claims of the present application require of both the bicarbonate particles and the slurry containing the same to have specific characteristics. Those characteristics are clearly set forth in the claims. None of the references alone or in combination teach or suggest these critical features of the invention.


There is no way that one of ordinary skill in the art could combine these references to arrive at the claimed invention. None of the references as indicated above, teach the critical limitations of the claimed slurry and products made thereby. One of ordinary skill in the art would not have been motivated to prepare compositions with these claim limitations because there was no teaching or suggestion that these limitations were critical or that they would produce a stable composition. It is mere speculation to suggest that somehow the references, because they disclose a variety of uses of sodium bicarbonate, could be used to produce a slurry with the particular parameters that are required by the pending claims.

In view of the foregoing, Applicants submit that the present application is in condition for allowance and early passage to issue is therefore deemed proper and is respectfully requested.

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It is believed that no fee is due in connection with this matter. However, if any fee is due, it should be charged to Deposit Account No. 23-0510.

Respectfully submitted,


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